

MOBILE ROBOT CELL

ZIMO

▶ PRODUCT ADVANTAGES



- ▶ Can be operated intuitively and used flexibly
- ▶ Customizable
- ▶ Can be used collaboratively or cooperatively
- ▶ Ideal for small and varying batch sizes
- ▶ Boost your productivity and optimize complex production processes

▶ HIGHLIGHTS AND TECHNICAL DATA



IP54



MATCH ecosystem



Handling weight up to 12 kg
(minus gripper system)

▶ CHALLENGE AND SOLUTION

- ▶ Flexible adaptation to the respective workpiece thanks to a comprehensive ecosystem consisting of grippers ranging from normal to large stroke as well as suction and vacuum components
- ▶ 24/7 machine loading and unloading, rapid adaptation times and a simplified servicing routine increase the machine operating times
- ▶ ZiMo supports checking, trimming or marking for higher quality
- ▶ Rapid adaptation times as well as optimized and automated production processes reduce the burden on employees in monotonous processes
- ▶ Legwork with complex installation tasks – safety during cooperative and collaborative tasks is guaranteed at all times thanks to integrated safety standards

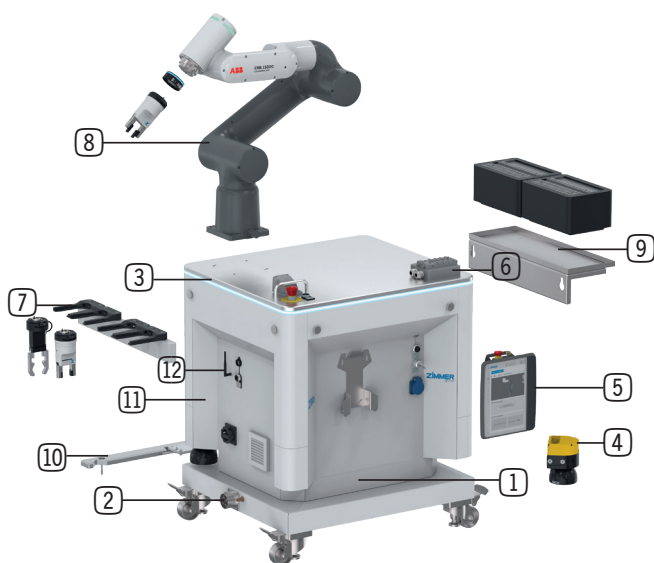
▶ WORKPIECE PARAMETERS

- ▶ Handling weight up to 12 kg (minus gripper system)
- ▶ Range of up to 1,520 mm
- ▶ Jaw stroke of up to 60 mm (gripper system)

▶ APPLICATION EXAMPLES

- ▶ Logistics
- ▶ Packaging industry
- ▶ Medicine & pharmaceuticals (life science)
- ▶ Plastic injection molding
- ▶ Installation technology
- ▶ Tool machining
- ▶ Training cell

► FUNCTIONS AND DETAILS



- ① Basic housing
- ② CEE socket, 400 V, 16 A, three-phase; external pneumatic connection
- ③ LED strip for status display
- ④ SICK safety scanner
- ⑤ Operator panel
- ⑥ Pneumatic options and passive distributor
- ⑦ Storage for up to four MATCH components
- ⑧ Robots (various models and manufacturers)
- ⑨ Storage for SLCs, cartons, boxes
- ⑩ Docking bar, Euromap 67, digital safety I/O (32 pins)
- ⑪ IO-Link for control of grippers and external IO-Link products
- ⑫ Remote maintenance for remote service support in the event of malfunctions

► CONFIGURATION

► Base model S



- Base housing with tabletop
- Basic docking bar
- Control system (PLC)
- Control system with / without Zimmer HMI
- 5 kg GoFa robot

► Base model M



- Base housing with tabletop
- Basic docking bar
- SICK safety scanner
- SLC rack
- IO-Link
- Pneumatics without safety
- Control system (PLC)
- Control system with / without Zimmer HMI
- 5 kg GoFa robot

► Base model L



- Base housing with tabletop
- Basic docking bar
- SICK safety scanner
- SLC rack
- IO-Link
- Pneumatics with safety
- Digital safety I/O
- MATCH storage station
- Control system (PLC)
- Control system with / without Zimmer HMI
- 10 kg GoFa robot

► TECHNICAL DATA ON INSTALLATION SIZES / VERSIONS

Standard	Enveloping installation space (LxWxH) [mm]	Weight [kg]
Base model	720 x 920 x 933	305
With max. options	885 x 1065 x 2200	350 – 415
With ABB GoFa 5	720 x 920 x 1800	375

► TECHNICAL DATA ON CONNECTIONS AND CONTROL SYSTEM

	► Technical data
Electrical connection	400V 3+N+PE
Electrical plug	CEE 16A
Pneumatic connection [bar]	5.5–6
Pneumatic plug	KD NW7
Operating temperature [°C]	+5 to +40
Control system (PLC)	Beckhoff
Control system visualization	Zimmer HMI

► ABB ROBOT

	► Technical data		
	GoFa 5	GoFa 12	GoFa 10
Range [mm]	950 (wrist) 1050 (flange)	1270 (wrist) 1370 (flange)	1520 (wrist) 1620 (flange)
Load capacity [kg]	5	12	10
Functional safety	Performance level PL d of category 3 (in accordance with EN ISO 13849)		
Robot control system	OmniCore C30		
Max. TCP speed [m/s]	2.2	2	2
Position repeat accuracy [mm]	± 0.02	± 0.02	± 0.02

► UNIVERSAL ROBOTS ROBOT

	► Technical data		
	UR3e	UR5e	UR10e
Range [mm]	500	850	1300
Load capacity [kg]	3	5	10
Certificates	EN ISO 13849-1, PLd category 3 and EN ISO 10218-1	EN ISO 13849-1, PLd category 3 and EN ISO 10218-1	EN ISO 13849-1, PLd category 3 and EN ISO 10218-1
Robot control system	OEM control box	OEM control box	OEM control box
Max. TCP speed [m/s]	1	1	1
Position repeat accuracy [mm]	± 0.03	± 0.03	± 0.03

► FANUC ROBOT

	► Technische Daten		
	CRX-5iA	CRX-10iA	CRX-10iA/L
Range [mm]	994	1.249	1.418
Load capacity [kg]	5	10	10
Certificates	EN ISO 13849-1, PLd category 3 and EN ISO 10218-1	EN ISO 13849-1, PLd category 3 and EN ISO 10218-1	EN ISO 13849-1, PLd category 3 and EN ISO 10218-1
Robot control system	R-30iB mini plus	R-30iB mini plus	R-30iB mini plus
Max. TCP speed [m/s]	2	2	2
Position repeat accuracy [mm]	± 0,03	± 0,04	± 0,04

► TECHNICAL DATA ON INTERFACE OPTIONS

	► Technical data				
	Injection molding machine	General machine interface	Gripper	Conveyor belt	Other external peripheral equipment
IO-Link			Yes		Yes
Euromap 67	Yes				
Pneumatics with safety			Yes	Yes	Yes
Pneumatics without safety			Yes	Yes	Yes
Passive distributor			Yes	Yes	Yes
Digital safety I/O		Yes		Yes	Yes
Ethernet TCP/IP (available as standard)		Yes			Yes

► TECHNICAL DATA ON MECHANICAL OPTIONS

	► Technical data
	Safety scanner
Performance level	d
Protective field range (max. usable) [m]	7.5
Configurable protective field	Yes
Detection angle [°]	275 for each scanner
Detection plane	2D
Number of monitoring cases	8
Number of shutdown paths	4

	► Technical data			
	Storage for 4 MATCH components			
Dimensions (WxDxH) [mm]	610 x 165 x 95			
Connection, electrical	4 x M8, 3-pin, A-coded, pluggable			
Connection, mechanical	Can be hooked in			
Gripper compatibility	LWR50L LWR50L-02 LWR50L-03	LWR50L-21 LWR50L-22 LWR50L-23	LWR50L-24 LWR50L-25 LWR50L-26	
Sensors	"Part present" sensing			

► TECHNICAL DATA ON MECHANICAL OPTIONS

	► Technical data
	Docking bars
Dimensions (WxDxH) [mm]	780 x 65 x 20
Sensors	Coded magnetic switch "ZiMo present" sensing
Installation	Doweling in the floor
Position accuracy [mm]	± 2

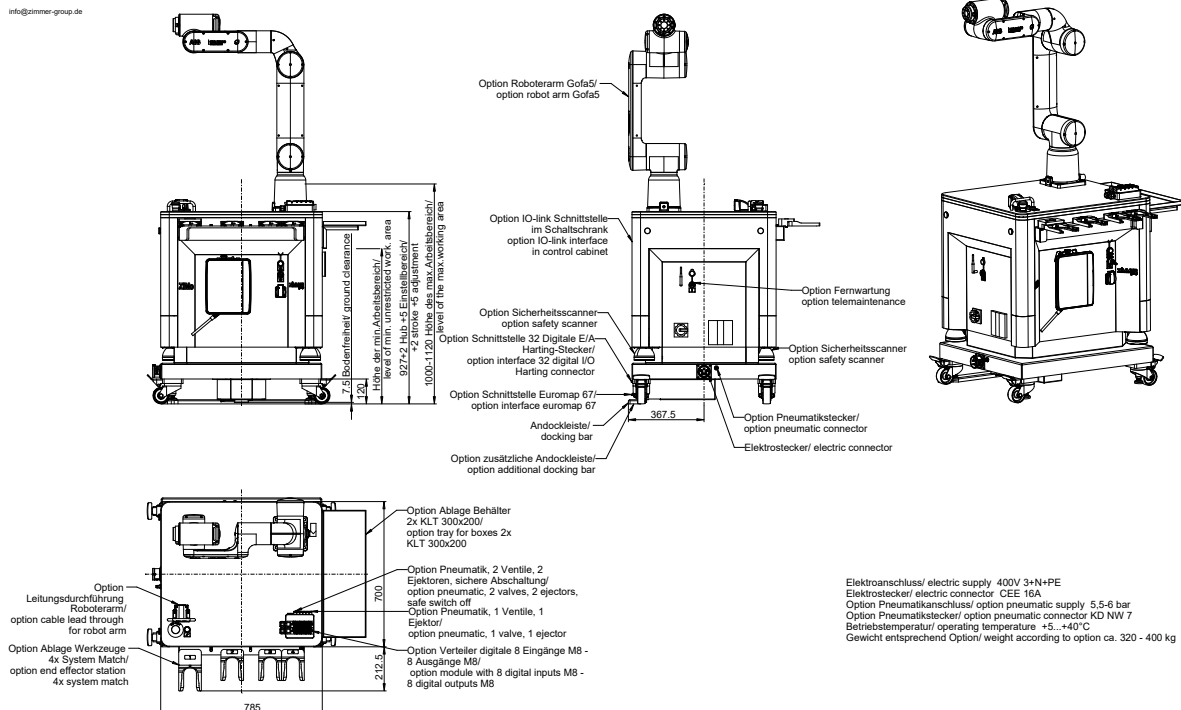
► TECHNICAL DATA ON ACCESSORIES

	► Technical data
	Storage for 2x SLCs (200x300)
Dimensions (WxDxH) [mm]	615 x 215 x 113
Shelf surface [mm]	200 x 600
Max. load capacity [kg]	30

► TECHNICAL DRAWING

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Darstellung beispielhaft mit Roboterarm Gofa5, optional andere Roboterarme - siehe Blatt 2
description exemplified with robot arm Gofa5, optional other robot arms - shown on sheet 2



Elektroanschluss/ electric supply 400V 3+N+PE
Elektrostecker/ electric connector CEE 16A
Option Pneumatikanschluss/ option pneumatic supply 5,5-6 bar
Option Pneumatikstecker/ option pneumatic connector KD NW 7
Betriebstemperatur/ operating temperature +5...+40°C
Gewicht entsprechend Option/ weight according to option ca. 320 - 400 kg

Datenblatt ZIMo Blatt 1 von 2
data sheet ZIMo sheet 1 of 2

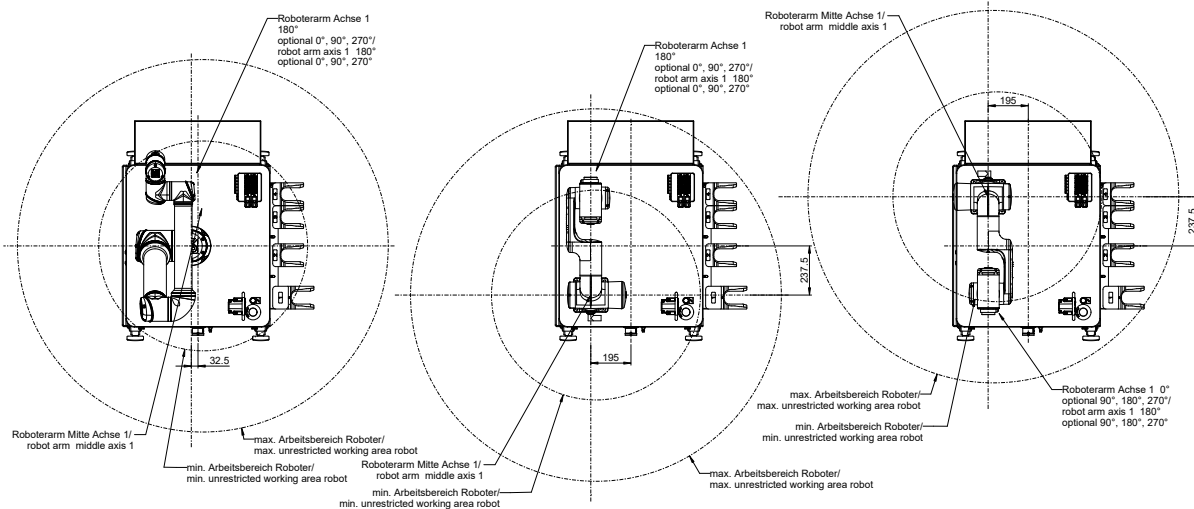
Zeichnungsnummer	Projektskizze	SOCC Nummer	Objektname	Datum	Geplant	Name	Geplant	Index
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Roboter Position RB
Darstellung beispielhaft mit Roboterarm UR10e,
optional andere Roboterarme - siehe Tabelle/
robot position RB
description exemplified with robot arm UR10e,
optional other robot arms - shown on chart

Roboter Position RA
Darstellung beispielhaft mit Roboterarm Gofa5,
optional andere Roboterarme - siehe Tabelle/
robot position RA
description exemplified with robot arm Gofa5,
optional other robot arms - shown on chart

Roboter Position RC
Darstellung beispielhaft mit Roboterarm Gofa5,
optional andere Roboterarme - siehe Tabelle/
robot position RC
description exemplified with robot arm Gofa5,
optional other robot arms - shown on chart



UR10e	1300	keine/ no option	keine/ no option	300	keine/ no option	keine/ no option	80 - 2230	
UR5e	850	850	850	300	300	300	80 - 1800	
Gofa 10	1520	keine/ no option	keine/ no option	925	keine/ no option	keine/ no option	620	
Gofa 5	950	950	950	507	507	507	748	
Robotearmy robot arm	max. Arbeitsbereich Roboter Position RB Radius in mm/ max. working area robot position RB radius in mm	max. Arbeitsbereich Roboter Position RA Radius in mm/ max. working area robot position RA radius in mm	max. Arbeitsbereich Roboter Position RC Radius in mm/ max. working area robot position RC radius in mm	min. Arbeitsbereich Roboter Position RB Radius in mm/ min. working area robot position RB radius in mm	min. Arbeitsbereich Roboter Position RA Radius in mm/ min. working area robot position RA radius in mm	min. Arbeitsbereich Roboter Position RC Radius in mm/ min. working area robot position RC radius in mm	Höhe min. Arbeitsbereich Roboter/ level of min. unrestricted working area robot	

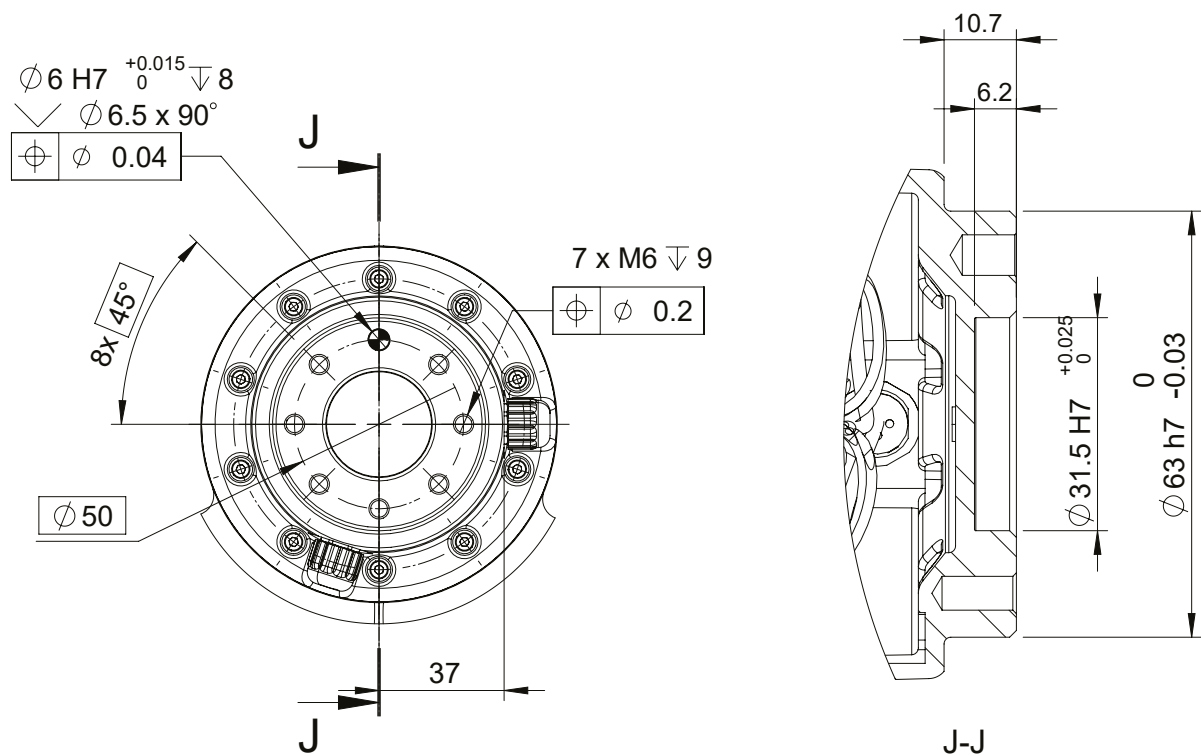
Not-Halt Abschaltzeit Steuerung: 0,19s
 Not-Halt Abschaltzeit Roboterarm UR5e, UR10e: 0,4s
 Not-Halt Abschaltzeit Roboterarm Gofa5:
 0,6s delay time + 0,1s stop time= 0,7s/
 Emergency stop turn off time control system: 0,19s
 Emergency stop turn off time robot UR5e, UR10e: 0,4s
 Emergency stop turn off time robot Gofa5:
 0,6s delay time + 0,1s stop time= 0,7s

Datenblatt ZIMo Blatt 2 von 2/
data sheet ZIMo sheet 2 of 2

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► TECHNICAL DRAWING OF CONNECTION

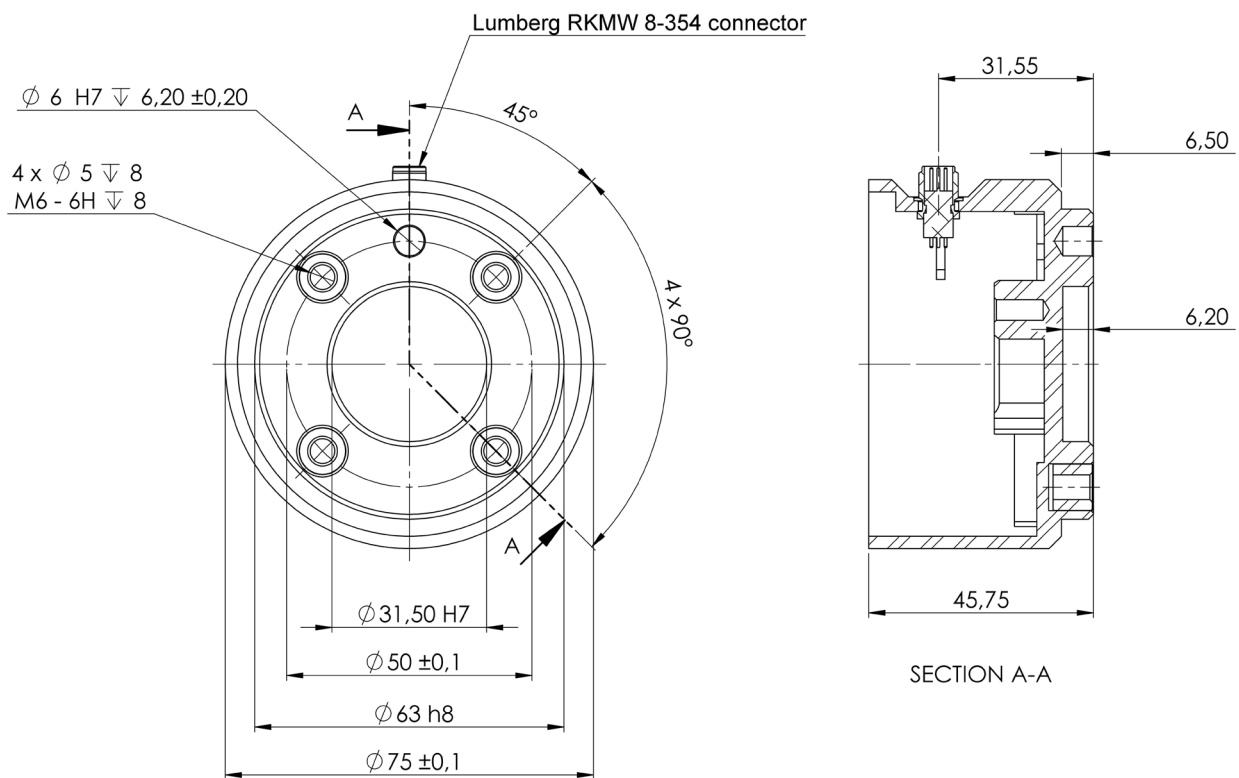
ABB GoFa 5 - 12



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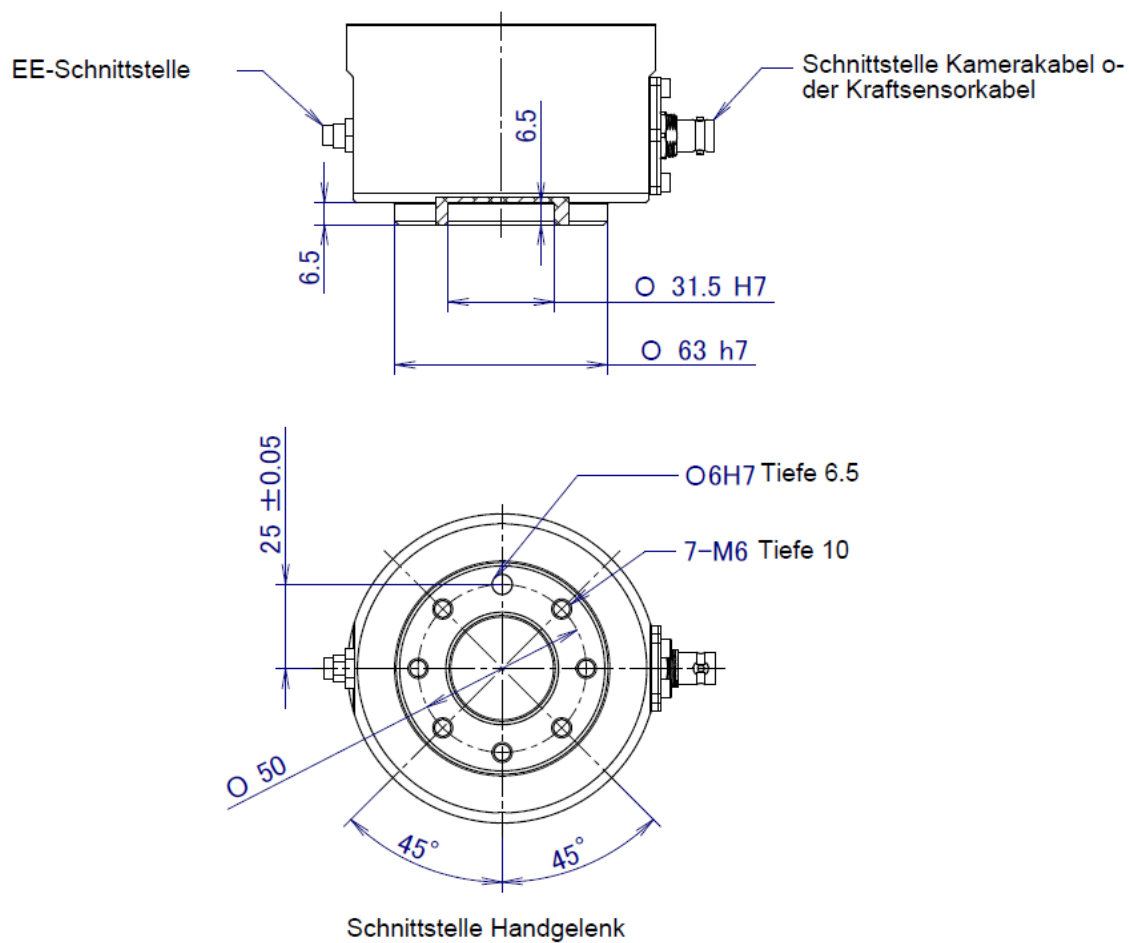
► TECHNICAL DRAWING OF CONNECTION

UR 3e - 10e



► TECHNICAL DRAWING OF CONNECTION

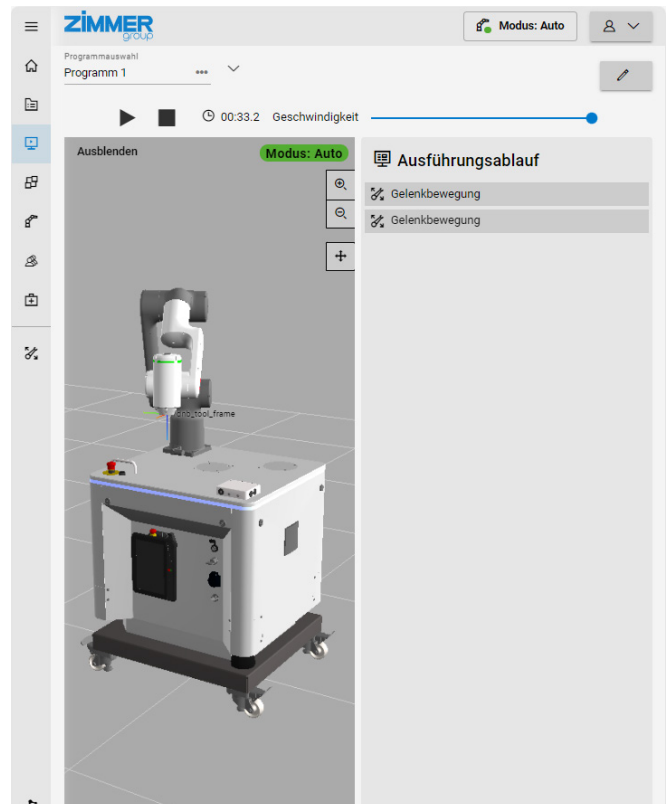
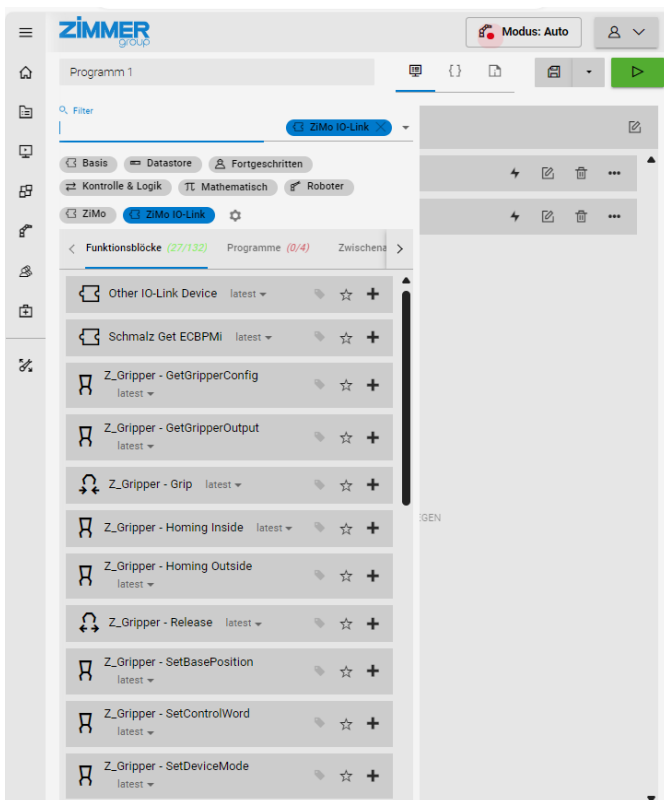
FANUC CRX-5iA - 10iA/L



► COMPATIBILITY WITH ROBOT MANUFACTURERS

- | | | |
|---------------|----------|--------------------|
| ► ABB GoFa 5 | ► UR 3e | ► FANUC CRX-5iA |
| ► ABB GoFa 10 | ► UR 5e | ► FANUC CRX-10iA |
| ► ABB GoFa 12 | ► UR 10e | ► FANUC CRX-10iA/L |

► SOFTWARE



► SOFTWARE ADVANTAGES

- Fast and intuitive commissioning
- Shortened set-up times
- No programming knowledge required thanks to the use of function blocks
- Self-initialization and simple operation of Zimmer Group grippers
- Preconfigured interfaces
- Optimization of production processes

► SOFTWARE FUNCTIONS

- Structure made of function blocks
- Drag-and-drop compilation
- Instructions for complex tasks (e.g. palletizing)
- Grippers (especially IO-Link) have their own function blocks
- Various user and rights groups can be set up